RECEIVED
CENTRAL FAX CENTER
NOV 2.7 2006

**2**003/019

OHASHI, et al., 10/806,338 27 November 2006 Amendment Responsive to 27 July 2006 Office Action 500.44934X00 / W1482-01EO Page 2

## **Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

(Currently Amended) A node switching-method of controlling the execution enablement/disablement of for-I/O requests from plural host computers to a disk device, so as to perform the switching to a node which is capable of executing said I/O requests, said node switching said method comprising: the stope of:

in said host computers.

transmitting access-right change commands to said disk device, in advance, said access-right change commands including one piece or plural pieces of information resulting from sausing-having I/O-enable/disable information and host identification information to correspond to each other in a one-to-one correspondence manner, said I/O-enable/disable information indicating whether or not said disk device will execute said I/O requests from said host computers, said host identification information being designed for identifying said respective host computers, and

issuing, to said disk device, said I/O requests to which said host computers have added said host identification information; and in said disk device,

changing in a batch of said I/O-enable/disable information on each host-computer basis in accordance with said access-right change commands from said host computers, and simultaneously storing and

OHASHI, et al., 10/806,338 27 November\_2006 Amendment Responsive to 27 July 2006 Office Action

holding said I/O-enable/disable information access-right change commands in an access-right management table,

identifying said-request-source host computers in response to said I/O requests from said host computers, and,

based on said host identification information and said I/Oenable/disable information that said disk device has heldheld in said
access-right management table, determining to enable or disable
judging said execution enablement/disablement for said I/O requests to
be executed on each host-computer's node basis.

2. (Currently Amended) The node switching method according to Claim 1. further comprising: the steps of:

in said host computers,

in said disk device,

transmitting path information to said disk device, in advance, said path information resulting from causing having said host identification information and path identification information to correspond to each other, said path identification information being designed for identifying all of logical paths from said host computers to said disk device, and

issuing said I/O requests to which said host computers have added said path identification information; and

storing and holding said path identification information transmitted from said host computers,

OHASHI, et al., 10/806,338 27 November\_2006 Amendment Responsive to 27 July 2006 Office Action 500.44934X00 / W1482-01EO Page 4

extracting said path identification information from said I/O requests transmitted from said host computers, extracting said host identification information corresponding to said path identification information stored and held, and simultaneously extracting said I/O-enable/disable information with which said host identification information extracted coincides, and

judging, using the extracted said I/O enable/disable information, said execution enablement/disablement/whether to enable/disable each I/O request for said I/O requests on each host-computer's node basis.

3. (Currently Amended) The node switching method according to Claim 1, further-comprising: the steps-of:

if an I/O-disable command is included in said I/O-enable/disable information in said access-right change commands transmitted from said host computers, then in said disk device,

extracting, from among said access-right change commands, host identification information corresponding to said I/O-enable/disable information with respect to all of I/O-disable commands included in said same access-right change commands, and

updating I/O-enable/disable information for host identification information into an I/O-disable state, said host identification information coinciding with said host identification information extracted and being stored and held in said disk device, and

OHASHI, et al., 10/806,338 27 November 2006 Amendment Responsive to 27 July 2006 Office Action

if an I/O-enable command is included in said I/O-enable/disable information in said access-right change commands transmitted from said host computers,

then in said disk device,

extracting, from among said access-right change commands, host identification information corresponding to said I/O-enable/disable information with respect to all of I/O-enable commands included in said same access-right change commands, and

updating said I/O-enable/disable information for host identification information into an I/O-enable state, said host identification information coinciding with said host identification information extracted and being stored and held in said disk device.

4. (Currently Amended) The node-switching method according to Claim 3, wherein

said processing of updating said I/O-enable/disable information for said host identification information into said I/O-enable state is kept waiting for all of I/Os to be completed, and is executed after the-completion of all of said I/Os, with said host identification information being stored and held in said disk device, and all of said I/Os being in processing in said host computers.

5. (Currently Amended) The node switching-method according to Claim 2, wherein

said disk device is configured to include plural logical disks resulting from logically dividing an assembly of disk drives.

OHASHI, et al., 10/806,338 27 November 2006 Amendment Responsive to 27 July 2006 Office Action

said host computers,

transmitting said access-right change commands to said disk device, in advance, said access-right change commands including one piece or plural pieces of information resulting from causing having said I/O-enable/disable information, said host identification information and logical-disk identification information to-correspond to each other, said I/O-enable/disable information indicating whether or not said disk device will execute said I/O requests from said host computers, said host identification information being designed for identifying said respective host computers, and said logical-disk identification information being designed for identifying said logical disks, and

issuing, to said disk device, said I/O requests to which said host computers have added said logical-disk identification information and said path identification information;

said disk device,

changing in a batch of said I/O-enable/disable information on each host-computer basis in accordance with said access-right change commands from said host computers, and simultaneously storing and holding said access-right change commands,

extracting said path identification information from said I/O requests transmitted from said host computers, extracting said host identification information corresponding to said path identification information from said access-right change commands stored and held, and extracting said I/O-enable/disable information for which said host

OHASHI, et al., 10/806,338 27 November 2006 Amendment Responsive to 27 July 2006 Office Action 500.44934X00 / W1482-01EO Page 7

identification information extracted and logical-disk identification information on logical disks selected as targets of said I/O requests coincide with each other, and

judging, using the extracted I/O-enable/disable information, said execution enablement/disablement/whether to enable/disable each I/O request for said I/O requests on each host-computer's node basis.

6. (Currently Amended) The node switching method according to Claim 5, wherein said extraction of said I/O-enable/disable information comprising: the steps of:

extracting said logical-disk identification information and said host identification information from said access-right change commands, and extracting said I/O-enable/disable information whose logical-disk identification information and host identification information coincide with said logical-disk identification information and said host identification information extracted.

7. (Currently Amended) A node-switching-method of controlling said execution-enablement/disablement for of I/O requests from plural host computers to a disk device, so as to perform the switching to a node which is capable of executing said I/O requests, said node switching said method comprising,

wherein said host computers possess plural application

processes, and wherein ;said application processes including: includes the steps of:

transmitting access-right change commands to said disk device,
in advance, said access-right change commands including one piece

OHASHI, et al., 10/806,338 27 November 2006 Amendment Responsive to 27 July 2006 Office Action

or plural pieces of information resulting from-sausing-having I/O-enable/disable information and application-process identification information to correspond to each other in a one-to-one correspondence manner, said I/O-enable/disable information indicating whether or not said disk device will execute said I/O requests from said application processes, said application-process identification information being designed for identifying said respective application processes, and,

issuing, to said disk device, said I/O requests to which said application processes have added said application-process identification information, and

said disk device including operations of: includes the steps of:

changing in a batch of said I/O-enable/disable information on each application-process basis in accordance with said access-right change commands from said application processes, and simultaneously-storing and holding said I/O-enable/disable information in an access-right management table, access right change commands,

identifying said-request-source application processes in response to said I/O requests from said application processes, and,

based on said application-process identification information and said I/O-enable/disable information that said disk device has held, and judging said-execution enablement/disablement-held in said access-right management table, determining whether to enable/disable for

OHASHI, et al., 10/806,338 27 November\_2006 Amendment Responsive to 27 July 2006 Office Action 500.44934X00 / W1482-01EO Page 9

said I/O requests to be executed on each application-process's node basis.

8. (Currently Amended) An information processing system configured to control the execution enablement/disablement fer of I/O requests from plural host computers to a disk device, comprising: so as to perform the switching to a node which is capable of executing said I/O requests.

each of said host computers including: comprising:

an I/O request unit for issuing said-an I/O request to which said
I/O request unit has added host identification information for identifying
said respective host computers, and

an access-right change command unit for transmitting an access-right change command to said disk device, said access-right change command including one piece or plural pieces of information resulting from causing-having I/O-enable/disable information and said host identification information te-correspond to each other in a one-to-one correspondence manner, said I/O-enable/disable information indicating whether or not said disk device will execute said I/O requests from said host computers; and

said disk device including; comprising:

an access-right management table for storing and holding said access-right change commands from said host computers,

an access control unit for identifying said-request-source host computers of said I/O requests, and for judging said-execution

OHASHI, et al., 10/806,338 27 November\_2006 Amendment Responsive to 27 July 2006 Office Action

enablement/disablement for whether to enable/disable said I/O requests to be executed on each host-computer basis, from based upon said host identification information and said access-right management table, and

an access-right change unit that, in accordance with said access-right change commands from said host computers within said access-right management table, changes in a batch of said I/O-enable/disable information on each host-computer basis, within said access right management table.

said disk device judging said execution enablement/disablement for whether
to enable/disable said I/O requests on each host-computer's node basis, with said
host computers being said I/O request sources.

9. (Currently Amended) The information processing system according to Claim 8, wherein

each of said host computers further-comprises a path-information transmission unit for transmitting path information to said disk device, said path information resulting from causing having said host identification information and path identification information to-correspond to each other, said path identification information being designed for identifying all of logical paths from said host computers to said disk device,

said disk device <del>further-comprising</del> a path-information management table for storing and holding said path information transmitted from said path-information transmission unit in each of said host computers,

OHASHI. et al., 10/806,338 27 November 2006 Amendment Responsive to 27 July 2006 Office Action

said I/O request unit issuing, to said disk device, said I/O request to which said I/O request unit has added said path identification information,

said access control unit

extracting said path identification information from said I/O requests transmitted from said host computers, making reference to said path-information management table thereby to extract said host identification information corresponding to said path identification information extracted, and making reference to said access-right management table thereby to extract said I/O-enable/disable information with which said host identification information extracted coincides, and

judging said execution enablement/disablement for whether to enable/disable said I/O requests to be executed on each host-computer's node basis.